

HYDROGEN RECHARGING SYSTEM FOR  
FUEL CELL HYDRIDE STORAGE RESERVOIR

ABSTRACT OF THE DISCLOSURE

5        A self-contained hydrogen recharging system (5) for a fuel cell metal hydride storage canister (100). A water reservoir (10) provides water (15) to an electrolyzer (20), where the water is converted into hydrogen gas (22) and oxygen gas (24). The hydrogen gas is dried (26) and 10 then stored in an accumulator (30). When the metal hydride storage canister is ready to be refilled, it is connected by the user to the recharging system. A heat exchanger (55) heats the fuel cell hydride storage canister prior to transfer of the stored hydrogen gas, and 15 then cools the fuel cell hydride storage canister during transfer of the stored hydrogen gas. The hydrogen gas stored in the accumulator is rapidly transferred to the hydride storage canister by means of a pump (60) and stowed in the canister as a metal hydride.